

IN THE CLAIMS:

Please amend claims 1, 2, and 5, and cancel claims 10-12 without prejudice or disclaimer, as presented below.

1. (Currently Amended) A process of manufacturing a semiconductor device comprising:

forming an insulating layer above a semiconductor layer;

forming a conductive layer including ~~at least one of~~ a tantalum layer and a tantalum nitride layer, the conductive layer having a sidewall; and

etching the conductive layer by using a gas including SiCl_4 and NF_3 , wherein; a reactive material accumulates in the sidewall of the conductive layer to function as protection and the ratio of the flow rate of the NF_3 to the flow rate of the sum of the SiCl_4 and the NF_3 is approximately 1 to approximately 30 % such that an angle between the sidewall of the etched conductive layer and the insulating layer is 85 to 90 degrees ~~the conductive layer is etched to be substantially vertical~~.

2. (Currently Amended) A process of manufacturing a semiconductor device comprising:

forming an insulating layer above a semiconductor layer;

forming a conductive layer including at least one of a tantalum layer and a tantalum nitride layer;

etching the conductive layer by using a gas including NF_3 and C_2F_6 such that approximately 70-80% of the tantalum layer and the tantalum nitride layer are etched ~~fluorocarbon~~; and

subsequently etching the conductive layer again by using a gas including SiCl_4 and NF_3 , wherein; the ratio of the flow rate of the NF_3 to the flow rate of the sum of the SiCl_4 and the NF_3 is approximately 1 to approximately 30 % such that the conductive layer is etched to be approximately 89 degrees substantially vertical.

3. (Cancelled)

4. (Previously Presented) The process of manufacturing a semiconductor device claimed in claim 1 wherein; the insulating layer includes at least one of silicon oxide, silicon nitride and silicon oxynitride.

5. (Currently Amended) A process of manufacturing a semiconductor device comprising:

forming an insulating layer above a semiconductor layer;

forming a first tantalum nitride layer, body centered cubic lattice phase tantalum layer and a second tantalum nitride layer in this order;

forming a gate electrode by etching the first tantalum nitride layer, the body centered cubic lattice phase tantalum layer and the second tantalum nitride layer with using a gas including SiCl_4 and NF_3 ; and

forming first and second impurity layers constituting a source region and a drain region through introducing a impurity into the semiconductor layer, wherein; the ratio of the flow rate of the NF_3 to the flow rate of the sum of the SiCl_4 and the NF_3 is approximately 1 to approximately 30 % such that the conductive layer is etched to be 90 degrees substantially vertical.

Claims 6-12. (Cancelled)

13. (Previously Presented) The process of manufacturing a semiconductor device claimed in claim 2 wherein; the insulating layer includes at least one of silicon oxide, silicon nitride and silicon oxynitride.